Name: _____

Is It a Right Triangle

Use the converse of the Pythagorean theorem.

Learn: Check whether $a^2 + b^2 = c^2$ with the longest side as c. If it is equal, it is a right triangle.

Example: Can a triangle with sides 9, 12 and 15 be a right triangle? Show why.
Answer: yes, $9^2 + 12^2 = 15^2$

1. Can a triangle with sides 12, 16 and 21 be a right triangle? Show why.

Answer: _____

2. Can a triangle with sides 12, 16 and 20 be a right triangle? Show why.

Answer: _____

3. Can a triangle with sides 4, 3 and 6 be a right triangle? Show why.

Answer: _____

4. Can a triangle with sides 15, 20 and 26 be a right triangle? Show why.

Answer: _____

5. Can a triangle with sides 8, 15 and 16 be a right triangle? Show why.

Answer: _____

6. Can a triangle with sides 6, 8 and 10 be a right triangle? Show why.

Answer: _____

7. Can a triangle with sides 8, 6 and 10 be a right triangle? Show why.

Answer: _____

8. Can a triangle with sides 15, 20 and 25 be a right triangle? Show why.

Answer: _____

Name: **ANSWER KEY**

Is It a Right Triangle

Use the converse of the Pythagorean theorem.

Learn: Check whether $a^2 + b^2 = c^2$ with the longest side as c. If it is equal, it is a right triangle.

Example: Can a triangle with sides 9, 12 and 15 be a right triangle? Show why.
Answer: yes, $9^2 + 12^2 = 15^2$

1. Can a triangle with sides 12, 16 and 21 be a right triangle? Show why.

Answer: no, $400 \neq 441$

2. Can a triangle with sides 12, 16 and 20 be a right triangle? Show why.

Answer: yes, $12^2 + 16^2 = 20^2$

3. Can a triangle with sides 4, 3 and 6 be a right triangle? Show why.

Answer: no, $25 \neq 36$

4. Can a triangle with sides 15, 20 and 26 be a right triangle? Show why.

Answer: no, $625 \neq 676$

5. Can a triangle with sides 8, 15 and 16 be a right triangle? Show why.

Answer: no, $289 \neq 256$

6. Can a triangle with sides 6, 8 and 10 be a right triangle? Show why.

Answer: yes, $6^2 + 8^2 = 10^2$

7. Can a triangle with sides 8, 6 and 10 be a right triangle? Show why.

Answer: yes, $8^2 + 6^2 = 10^2$

8. Can a triangle with sides 15, 20 and 25 be a right triangle? Show why.

Answer: yes, $15^2 + 20^2 = 25^2$